1990
~~1989~~
Year of Revision

State of Alaska
Department of Fish and Game
Nomination for Waters
Important to Anadromous Fish

Anadromous Water Catalog Volume Southeast I

USGS Quad (11) Juneau B-2

Name of Waterway Ducle Creek

Anadromous Water Catalog Number of Waterway

111-50-10500-2002-3014

Change to X Atlas
X Catalog
X Both

Addition X

Deletion

Correction

Name addition:

USGS name

Local name

For Office Use

Nomination # 90 367

Richard Reed — Regional Supervisor — 8/9/89 Date

[illegible] — 11/29/89

FI — Drafted — 11/14/89 Date

Species	Date(s) Observed	Spawning	Rearing	Migration
Coho Salmon	7/31/89	X①	X②	
Cutthroat trout	7/31/89		X②	

Comments: Provide any clarifying information, including number of fish observed, location of fish survey data, etc.

① Adult Cola observed spawning in fall of 1987. ② 24 rearing cohos 60-90 mm in length and one cutthroat trout 130mm minnow trapped in 10 traps - 2 hr soak 7/31/89

Attach a copy of a map showing location of mouth and upper points of each species, specific stream reaches identified for spawning or rearing, locations of barriers, such as falls. Attach a copy of the fish survey data, if available.

Name of Observer (please print) Mike Bethers

Date: 8/1/89 Signature: Michael Bethers

Address:

Signature of Area Biologist: Janet Schempf

MIKE BETHERS
AREA MANAGEMENT BIOLOGIST
JUNEAU-YAKUTAT AREA
DEPARTMENT OF FISH & GAME
SOUTHEAST REGIONAL OFFICE
DIVISION OF SPORT FISH
DOUGLAS ISLAND CENTER BLDG.
P.O. BOX 20
DOUGLAS, ALASKA 99824
PHONE: (907) 465-4270

Chapter 15

Duck Creek

Anadromous Catalog Number: 111-50-10500-2002

Location: Lat. 58°21'33" N., Long. 134°35'52" W.
(Directly west of the intersection at Egan Drive and Loop Road)

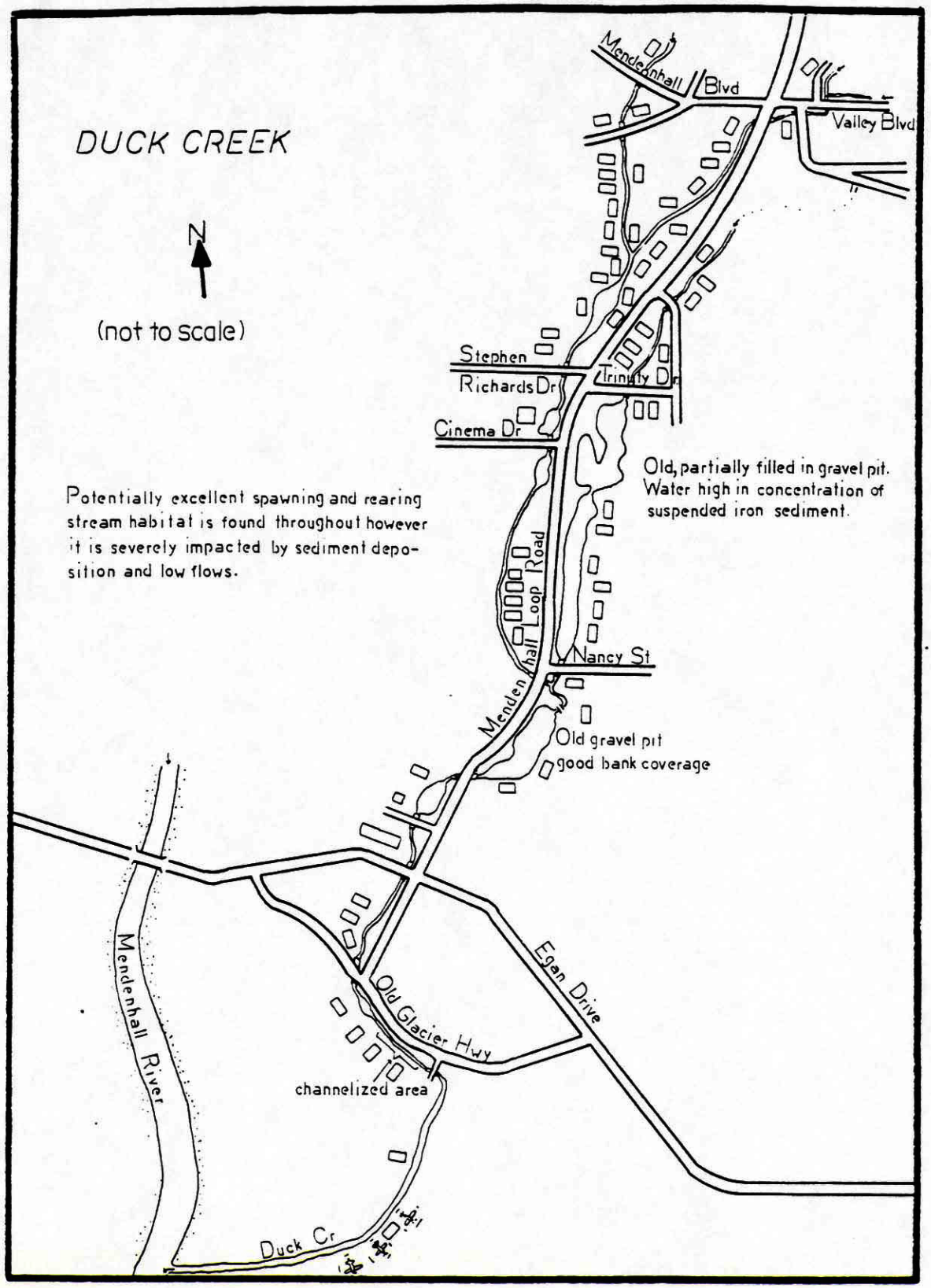
Description:

Duck Creek runs approximately 3 miles in a southerly direction through the middle of the Mendenhall Valley. It enters the Mendenhall River directly upstream from the Juneau municipal airport runway (Figure 15.1). The stream measures from 5 to 15 feet in width and from to 2 feet in depth. The stream bed is essentially gravel and has been subjected to extensive gravel removal since historical times. Excavation has exposed iron deposits which often impart an orange color to the water.

Fish Species Present:

Duck Creek has wild populations of pink, chum, and coho salmon, Dolly Varden char and cutthroat trout. Historically, Duck Creek is reported to have had runs of up to 10,000 chum salmon. As late as 1966, the coho escapement was estimated to be 500 fish. In recent years, the water has been too discolored from iron sediment to conduct escapement surveys.

A summary of salmon escapement counts is presented in Table 15.1 and a summary of fish stocking is presented in Table 15.2



DRAFT

Figure 15.1 Map of Duck Creek

Table 15.2. Stocking record for Duck Creek.

DATE	SPECIES	NUMBER	SIZE	BROOD SOURCE	HATCHERY	REMARKS
1919-20	Coho	50,000	fry	...	...	
6/19/53	Brook	3,100	...	...	...	
8/03/54	Rainbow	1,000	fry	Kodiak C.C.	Auke Bay	
8/02/57	Rainbow	11,000	...	Kodiak	Auke Creek	USF&WS
1958	Rainbow	1,500	feeding fry	Kodiak	Auke Creek	
1959	Rainbow	1,000	fry	Kodiak C.C.	Deer Mountain	
1960	Rainbow	1,000	fry	Kodiak C.C.	Deer Mountain	
1960	Rainbow	1,000	fry	Kodiak C.C.	Auke Bay	
5/05/77	Coho	50,000	fry	Mendenhall	Crystal Lake	
5/11/77	Coho	50,000	fry	Mendenhall	Crystal Lake	
5/17/77	Coho	29,620	fry	Mendenhall	Crystal Lake	
1984	Coho	?	fry	Salmon Creek	Salmon Creek	NSRRA

Fish Habitat:

Duck Creek has been subjected more physical land use impacts than any other stream in the Juneau area. Natural pools in the upper reaches have filled in with sediment from polluted streamside drainage. Other larger ponds which were gravel pits still provide some rearing habitat. Most of these ponds have good overhanging cover along the shorelines. Emergent vegetation has encroached into the mainstem channels. There are several good riffle areas located throughout the stream which provide spawning habitat. In 1984, lower Duck Creek from Berners Avenue to Glacier Highway was "channelized" as stipulated by this Department in response to a Title 16 permit application. This section of the creek which often went dry during low flows now contains a good channel and refuge pools which should reduce loss of fish.

Public Use:

Duck Creek originally served as a source of fish to be used as mink feed by fur farmers located in the Mendenhall Valley. Several thousand fish, presumably coho and chum salmon were taken from the stream annually. Historically the creek is reported to have produced excellent trout fishing. The stream is presently closed to fishing; however, the stream banks receive considerable use by children from adjacent residential areas.

Land Use:

Upper reaches of Duck Creek are bordered by small private residential lots. The lower section of the stream flows through larger commercial parcels and airport property owned by the City and Borough of Juneau. Duck Creek is located in, and adjacent to,

major areas of development in the Mendenhall Valley and has been subjected to many forms of habitat abuse. From historical times to the early 1970's the stream was used as a local source of gravel with little regard for fishery values. Gravel excavation exposed iron deposits in the upper drainage which seasonally gives a nearly opaque, orange color to the water, affecting light penetration and productivity. Stream side excavation and drainage from local residential developments have produced heavy loads of sediment which have filled in most pools in the stream. Water withdrawal is believed to be a major problem for Duck Creek. The majority of residences in the Mendenhall Valley have wells which draw on acquifer. A municipal sewage system does not filter back into the acquifer or stream, but drains out of the valley in a pipe. Consequently, the lower part of Duck Creek is often found dry during warm or dry spells. Duck Creek is reported to have periodically gone dry even in historical days. Many roads cross and parallel Duck Creek which provide a source of sediment and other pollutants to the stream.

Conclusion:

Duck Creek has significantly suffered from a multitude of land uses since historical times; however, the stream still has viable populations of fish. Major impacts from land use can now be prevented through the current permit application review process and with the development of the municipal water system, more water should be available for Duck Creek. Duck Creek would be an excellent stream for a community involvement restoration project. Restoration of the stream would not only promote fishery values but also streamside property values.

Recommendations:

It is recommended that a stream rehabilitation program be implemented on Duck Creek. A major factor in the future viability of Duck Creek will be the amount of water available for stream flow. It will be necessary to maintain a flow through the stream sufficient to prevent dry-up and low dissolved oxygen levels, to stabilize water temperature, and to reduce infiltration of iron sediment. A hydrologic analysis of the drainage and Mendenhall Valley to identify sources of water that could be routed to Duck Creek should be conducted. Once water flow is assured, the streambed should be cleaned to remove build-ups of sediment and to loosen up gravel. All non-natural materials in the stream should be removed and annual "clean-ups" should be conducted to control litter. Stream restoration and annual stream maintenance could be provided by volunteer groups and community involvement.

Further detrimental impact to Duck Creek should be prevented through: 1) prevention of further sedimentation, 2) requiring the filtering of all drainage onto the stream, 3) maintenance of water quality, and 4) provision of streamside greenbelts of at least 50

Pools should be excavated in lower Duck Creek to provide refuge for fish during dry periods. Such pools and improved channels should be required as mitigation on Title 16 permits. Duck Creek downstream from Cinema Drive would benefit from such pools and channel improvements.

Table 15.1. Salmon spawning escapement counts, Duck Creek.

YEAR	COHO	PINK	CHUM
1940			10,000
1966	500 (...)		
1969	1 (...)		
1973	120 (...)		
1978	2 (10/15)		
1983	13 (11/08)	1	2
1986	18 (10/27)		
1987	17 (10/21)		
1988			

Table 15.3. A summary of minnow trap data for Duck Creek, 1974.

Date	Traps Set	Coho Smolt	Coho Fry	Total Coho	Dolly Varden Smolt	Dolly Varden Fry	Total Dolly Varden	Stickle-back
6/01	6	1	0	1	1	3	4	45
6/09	6	1	0	1	4	13	17	12
6/20	6	6	77	83	1	25	26	115
6/27	6	5	82	87	0	0	0	145
6/30	5	3	69	72	0	2	2	65
7/12	5	8	68	76	-	1	1	33
7/15	4	0	101	101	0	0	0	15
8/02	4	3	96	99	0	0	0	70
8/04	4	1	164	165	0	0	0	24
8/12	4	8	103	111	0	0	0	60
8/20	4	1	152	153	0	0	0	16
8/28	4	4	130	134	0	0	0	46
9/03	4	3	112	115	0	0	0	37

Minnow Trap Catches in Duck Creek Adjacent to Super Bear Center

May 14, 1984

Trap	Coho Smolt	Coho Fry	Dolly Varden	Cutthroat Trout
1[1]	26	0	0	2
2	16	1	0	1
3	15	1	1	0
4[2]	55	0	2	0
5	14	0	0	3
	126	2	3	3

January 14, 1985

Trap	Coho Smolt[3]	Coho Fry	Dolly Varden	Cutthroat Trout
1	12	2	1	0
2	1	4	0	0
3	10	32	0	0
4	4	29	0	0
5	4	17	0	0
	31	84	1	0

[1] 100+ coho smolt observed around trap.

[2] 75+ coho smolt and 2 Dolly Varden observed around trap.

[3] Coho will smolt in spring 1985.

Minnow Trap Catches in Duck Creek Adjacent to Super Bear Center

May 14, 1984

Trap	Coho Smolt	Coho Fry	Dolly Varden	Cutthroat Trout
1[1]	26	0	0	2
2	16	1	0	1
3	15	1	1	0
4[2]	55	0	2	0
5	14	0	0	3
	126	2	3	3

January 14, 1985

Trap	Coho Smolt[3]	Coho Fry	Dolly Varden	Cutthroat Trout
1	12	2	1	0
2	1	4	0	0
3	10	32	0	0
4	4	29	0	0
5	4	17	0	0
	31	84	1	0

[1] 100+ coho smolt observed around trap.

[2] 75+ coho smolt and 2 Dolly Varden observed around trap.

[3] Coho will smolt in spring 1985.

Subj: Duck Creek Ponds

Janet

I was surprised that the ponds just north of Nancy Street were not included in Duck Creek anadromous waters.

Our survey & trapping of the area certainly documented the presence of coho and cutthroat, and did suggest that Dolly Varden are also present.

I would stand in strong opposition to any filling of the subject ponds or any other activity that would detract from fish production.

Mike Bethers
Sport Fish Div.
8/11/89

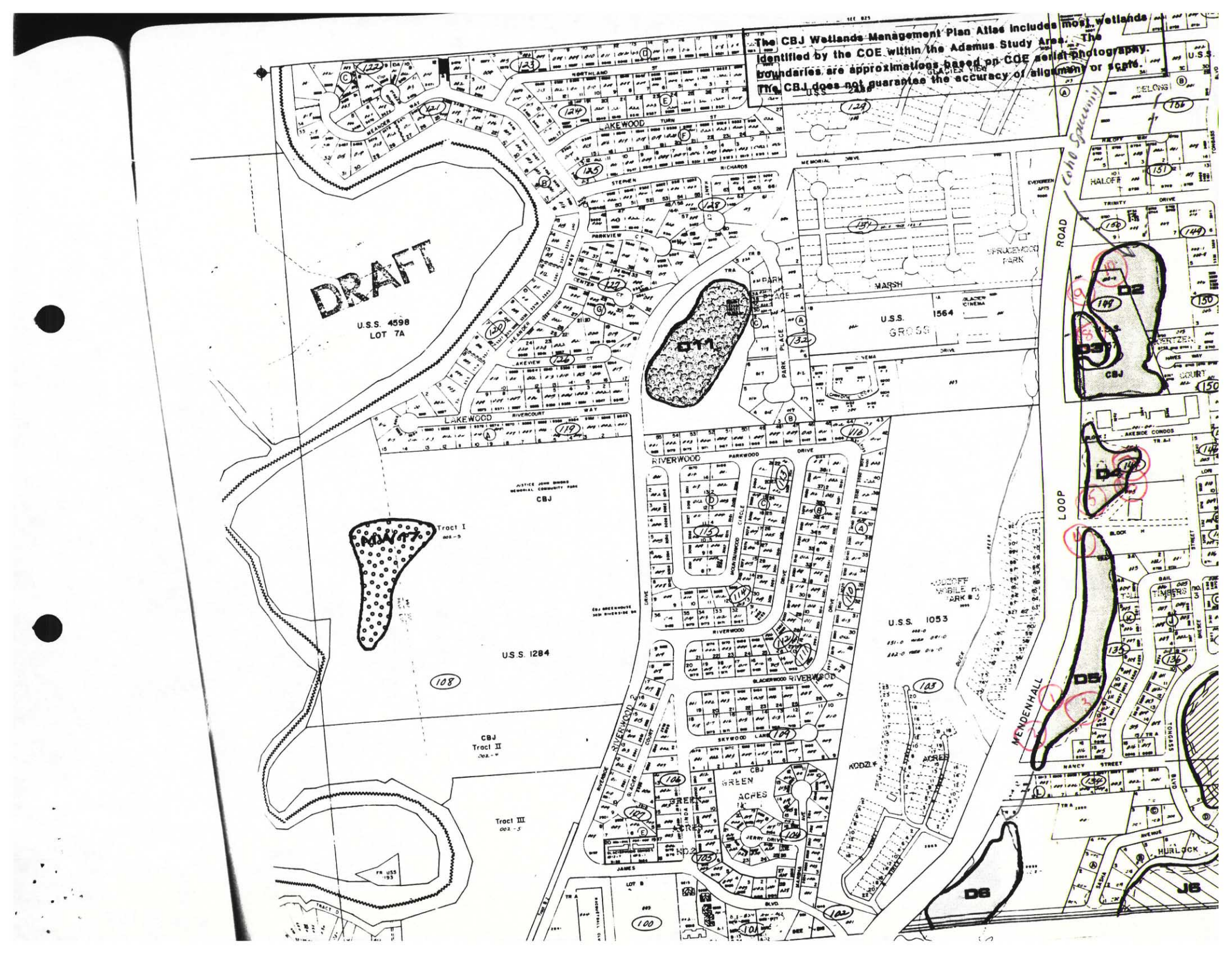
Duck Creek trapping Ponds north of Muncy Sheet
7/31/89

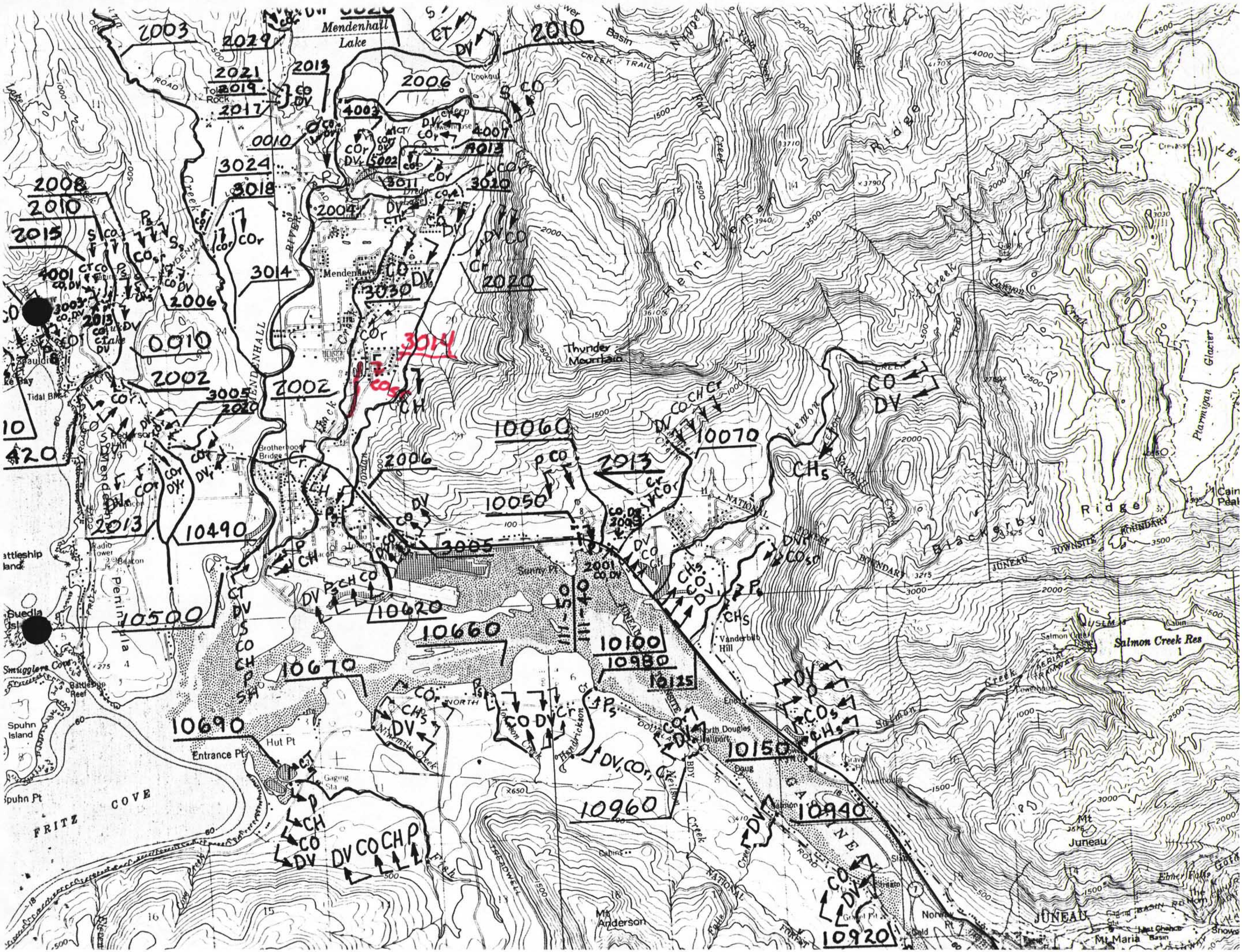
For trap site see attached map

Trap #	Catch
1	2 coho (90-100mm) 1 cutthroat trout (130mm)
2	2 coho (90mm)
3	∅
4	∅
5	∅
6	4 coho (60-80mm)
7	∅
8	3 coho
9	6 coho (60-80mm)
10	7 coho (60-80mm)

Note – lengths are approximate.
– An additional 12 salmonids approximately 80-100mm in length were observed in the water and numerous salmonids were observed to feeding on surface of ponds

Mike Sethe 7/31/89


The CBJ Wetlands Management Plan Atlas includes most wetlands identified by the COE within the Adamus Study Area. The boundaries are approximations based on COE aerial photography. The CBJ does not guarantee the accuracy of alignment or scale.
DRAFT
U.S.S. 4598
LOT 7A
U.S.S. 1284
U.S.S. 1564
U.S.S. 1053
CBJ
Tract I
Tract II
Tract III
D1
D2
D3
D4
D5
D6
JB
LAKEWOOD
RIVERWOOD
GLACIER VIEW
SPRUCEWOOD PARK
MARSH
AKESIDE CONDOS
MENDENHALL LOOP ROAD
Echo Spaceman


Mendenhall Lake
2003
2029
2010
2021
2019
2017
2013
2006
4003
4007
4013
3024
3018
3011
3020
2004
2008
2010
2015
4001
3003
3014
3030
2020
2006
0010
0.010
2002
3005
2020
2002
3014
Thunder Mountain
10060
10070
2013
2006
10050
10490
2013
3005
10500
10620
10660
10670
10690
10100
10980
10125
10150
10960
10940
10920
Brotherhood Bridge
Sunny Pt
Vanderbilt Hill
Salmon Creek Res
Ptarmigan Glacier
Battleship Island
Spuhn Island
Spuhn Pt
Entrance Pt
Hut Pt
FRITZ COVE
Mt Juneau
JUNEAU
Mt Anderson
Mt Maria
CO
DV
CH
CT